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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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OCT 16 2000

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of	)	
	)	
Implementation of 911 Act	)	WT Docket No. 00-110
	)	
Use of N11 Codes and Other Abbreviated Dialing Arrangements	)	CC Docket No. 92-105

COMMENTS OF NENA

The National Emergency Number Association ("NENA") hereby comments on the two notices of proposed rulemaking in the captioned dockets. The following discussion adopts the topical organization found in FCC 00-327, released August 29, 2000. ("Order and Notices") The Fourth Report and Order in CC Docket 92-105 implements Section 3(a) of S. 800[1] by designating 9-1-1 as the universal emergency telephone number within the United States. The Third Notice of Proposed Rulemaking in the docket seeks comment on "appropriate transition periods for areas in which 911 is not currently in use as an emergency telephone number." 47 U.S.C. §251(e)(3).

The new Notice of Proposed Rulemaking in WT Docket 00-110 seeks comment on the Congressional injunction, at Section 3(b) of S.800, that the Commission encourage and support the deployment in the states of comprehensive emergency communications infrastructures and programs.

[1] Pub. L. No. 106-81, enacted October 26, 1999, 113 Stat. 1286, amending Section 251(e) of the Communications Act of 1934, 47 U.S.C. §251(e).

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The Commission has chosen to defer, however, the consideration of amendments to Section 222 of the Communications Act made by Section 5 of S.800, which create exceptions to the privacy protection of telephone customer proprietary network information ("CPNI") and subscriber list information. For reasons discussed later, NENA believes that these statutory changes need to be taken up promptly in an appropriate docket.

CC Docket 92-105

In most of the United States, 9-1-1 is already established as the appropriate number for emergency calling.

NENA estimates that basic or enhanced 9-1-1 service is available to more than 50% of the geography and 90% of the wire telephone lines in the United States. Basic service is illustrated at Exhibit 1 of these comments. Enhanced service uses caller location information to route 9-1-1 calls to a Public Safety Answering Point ("PSAP") which, for reasons of geography, proximity or other factors, has been designated by local or state authorities as the appropriate recipient of calls from a given origin. Selective routing in wire and wireless telephony is depicted in Exhibits 2-4.

NENA strongly supports, and wishes to emphasize, note 29 of the Order and Notices. Section 20.18(b) of the Rules already requires wireless carriers to forward 9-1-1 calls, even if this necessitates translating the dialed number into a conventional seven or 10-digit number for delivery to a PSAP. Therefore, "it is not clear that any longer implementation period is necessary," and wireless carriers seeking transition time should be specific about why the interval is needed.

Highway signs using abbreviated numbers
for both emergency and non-emergency calling
must be modified in light of S.800.

Because the Commission reads the legislative history of S.800 to avoid imposing any federal obligations on states or localities (Order and Notices, note 22), the establishment of emergency calling service remains a local initiative. Even where 9-1-1 service exists, this does not foreclose other abbreviated dialing arrangements for non-emergency calls, such as 311 for access to community policing services. (Order and Notices, ¶ 13)

NENA wishes to point out, however, that in some areas the distinction between emergency and non-emergency use is not always obvious. For example, highway signs urging motorists to dial #77 to reach the state police may not distinguish between emergencies and non-emergencies. We think the FCC should work with federal and state departments of transportation, with local and state police, and with interest groups like the American Association of State Highway and Transportation Officials ("AASHTO")

(1) to assure that highway signs and similar mass-audience alerts are clear about 9-1-1 as the sole emergency number and

(2) to educate the public to dial only 9-1-1 in true emergencies.

An abbreviated number such as #77 may once have been an acceptable general-purpose address for emergency and non-emergency use. Now that S.800 is the law, only 9-1-1 is to be used to request emergency assistance. But the signs may not have changed to reflect the new law. Modifying or clarifying existing highway signs should not be deemed a forbidden imposition of burdens on state or local governments. To the contrary, it is the only way the use of abbreviated public help numbers can be made consistent with S.800.

An answering point for emergency use
should be considered an established destination
for 9-1-1 calls without further need for transition.

NENA is puzzled by the statement "there are communities that provide access to some emergency services via an abbreviated dialing code but have not established PSAPs." (Order and Notices, ¶ 17) No matter how many digits it takes to place a call, the signal must be sent somewhere. The destination of an abbreviated-dial call made in an emergency would seem to fit the definition of "Public Safety Answering Point" at Section 6 of S.800 as a facility designated to receive emergency calls and route them to emergency service personnel.

The issue here is more than semantic. Paragraph 21 of the Order and Notices reads in part:

> We tentatively conclude that we should not impose any particular obligation on carriers to transmit 911 calls to a particular local agency or similar destination in areas where State or local authorities have not established a PSAP or other answering point to which such calls can be routed.

If a community has been using some means other than 9-1-1 to address emergency calls, and if the result of that method is an emergency response, for all intents and purposes a "PSAP or other answering point" exists and a 9-1-1 call in that vicinity should be routed accordingly.

"Service area-specific circumstances and capabilities"
refers to 9-1-1 service areas, not carrier service areas.

When the House Report on the predecessor bill to S.800 refers to service area-specific application of transition periods for 9-1-1 offerings by carriers, it is talking about "areas in which 911 is not in use upon enactment." Therefore, technical and operational issues in setting

transition periods (Order and Notices, ¶ 18) must be evaluated PSAP by PSAP. A carrier is not excused from its 9-1-1 service obligations in particular areas where emergency answering points exist simply because there are other communities in the carrier's license area that do not have an emergency telephone infrastructure. This interpretation is consistent with Section 20.18 of the FCC's Rules, which obliges wireless carriers to deliver 9-1-1 calls if there is any place to send them.[2]

Prompt guidance is needed on the meaning
of new subsection 222(g) of the Communications Act.

As noted earlier, the Commission is deferring to another open docket its consideration of certain exceptions to the subscriber privacy provisions of Section 222 created by S.800. NENA urges that the use of another forum not be the occasion of delay. Information reaching us from the field suggests that entitlement to "subscriber list information" under subsection (g) is becoming a subject of some dispute between the incumbent local exchange carriers ("LECs") who typically possess and control such information and other parties seeking access.

In particular, the FCC should seize an early opportunity to construe the definition of eligible recipients of subscriber list information: "providers of emergency services, and providers of emergency support services, solely for purposes of delivering or assisting in the delivery of emergency services." As we understand it, disputes most often arise when the entity requesting the information is not directly in the business of delivering emergency services but "supports" or "assists" the process in some way. The issue is further complicated if the requesting entity

[2] Identifying areas where 9-1-1 service is basic or enhanced, and where no service yet exists, is one of the tasks NENA has set itself in the "Report Card to the Nation" ("RCN") discussed below.

appears to have commercial uses for the information apart from any role it may play in E9-1-1 service delivery.

"Private" security systems
may be covered by S.800

An issue not addressed in the Order and Notices is the increasing use of numbers or mechanisms other than 9-1-1 for emergency calling by customers of commercial security services whose calls typically come into private service bureaus. When the call is an emergency, the service bureau frequently forwards it to a PSAP via a seven or 10-digit number. With new commercial enterprises springing up every week or month, and with increasing numbers of calls reaching PSAPs via an inefficient and expensive "back door" dialing path, NENA believes that the letter and the spirit of S.800 must be applied to make the emergency calling system truly universal and seamless. We are studying this issue, and will have more to say about it on reply, but felt it important to set the issue up now for comment by others.

WT Docket 00-110

Encouraging and supporting the states in 9-1-1
implementation should be additive rather than selective.

There is no shortage of imaginative ways for the FCC and interested associations and individuals to help the states and local governments deploy wireless E9-1-1 service. Section 3(b) of S.800 names the "motor vehicle manufacturing industry, emergency medical service providers and emergency dispatch providers, transportation officials . . . consumer groups, and hospital

emergency and trauma care personnel" as objects of consultation and cooperation, without making the list exclusive or exhaustive.

Each of the vehicles or media mentioned at ¶¶ 25-27 of the Order and Notices – forums, technical roundtables, informational clearinghouses, internet resources, voluntary model plans – has some use in the implementation process.

NENA is planning five regional Critical Issues Forums aimed at implementation of wireless E9-1-1. (Exhibit 5) Attendance is open. To the extent the Forums can be used to advance the purposes of S.800, NENA would be pleased to consult with interested federal and state agencies. Out of earlier Forums conducted this year, NENA developed an implementation Checklist for PSAPs. (Exhibit 6) Based on the experience of states that have moved toward central administration (Virginia and North Carolina are recent examples), it may be possible to develop a checklist for states to use in meeting the expectation of Section 3(b) of S.800 regarding "coordinated statewide plans."

NENA has combined teleconferencing with internet access to produce EDUCATION*line* courses, including sessions focusing on wireless 9-1-1 rules conducted by FCC Wireless Telecommunications Bureau staff and NENA specialists. Two upcoming courses focusing on wireless matters are scheduled for October 25 and November 29, 2000.

NENA's web site at www.nena9-1-1.org makes available a "9-1-1 Tutorial" of graphics-plus-text slides, as well as a list of its 46 state chapters together with their presidents and conference schedules. Twenty-seven of the chapters have web sites of their own. An internal NENA web site is the "Wireless 9-1-1 Web Page," containing the previously-mentioned Checklist for PSAPs, legislative and regulatory information and links to other sites such as the FCC and CTIA.

NENA also is working on the first of a planned series of "Report Cards to the Nation" ("RCN") about the implementation of E9-1-1, particularly in wireless calling, throughout the country.[3] The FCC should consider placing a link to the RCN on its own government web site. NENA also offers its structure of state chapters as a means for organizing the encouragement and support of E9-1-1 deployment.

Each of the vehicles and media discussed above could be adapted to assist in meeting the purposes of S.800. NENA is ready to build on its nearly 20 years of 9-1-1 experience to make the universal emergency calling number in the United States not just a set of digits but a smoothly functioning, enhanced system of notification, identification, location and response in times of need.

Respectfully submitted,

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ITS ATTORNEYS

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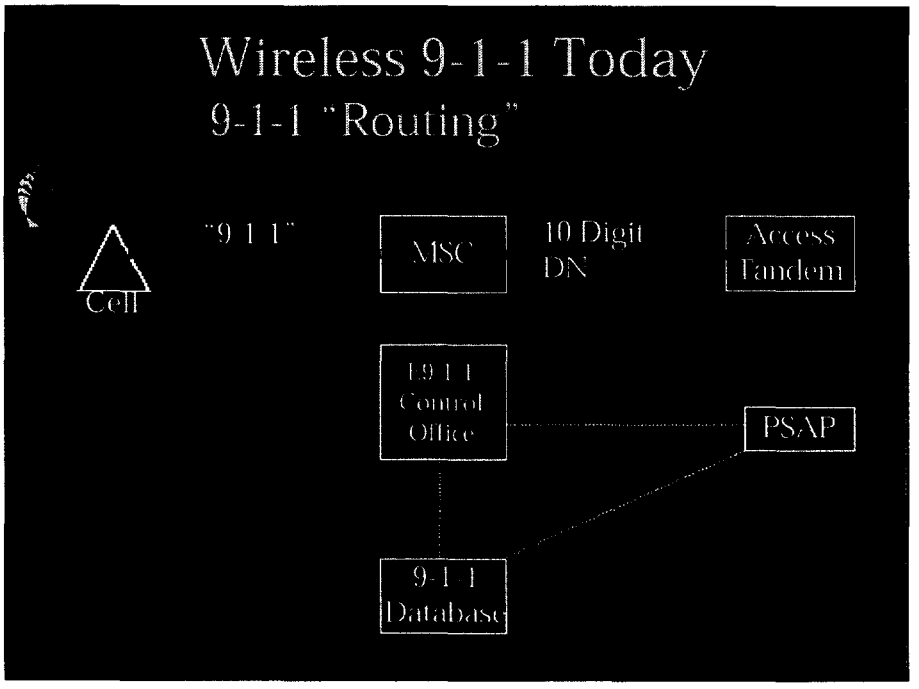
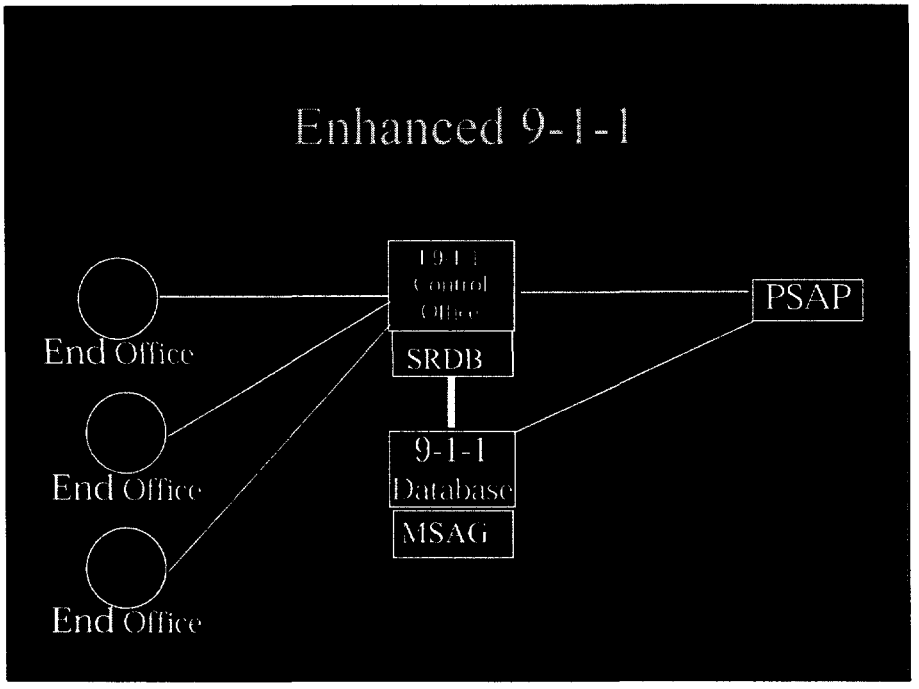
[3] The RCN is the first comprehensive study on 9-1-1 in the nearly 20 years since NENA's founding. It will establish key performance indicators and benchmarks for 9-1-1 operations. The RCN will include an annual report to Congress and a series of quarterly reports on public safety telecommunications topics.

Basic 911



In most of North America, 9-1-1 calls from wireless phones are treated as if 9-1-1 was a speed dial code - 9-1-1 is translated by the Mobile Switching Center (MSC, the wireless equivalent of a central office) to a preset 7 or 10-digit number. Calls bypass the 9-1-1 network and arrive at the PSAP via the public switched telephone network. Some wireless carriers are now offering Caller ID, but typically, there is no information delivered with the call.

Wireline Enhanced



The feature that separates Basic 9-1-1 from Enhanced 9-1-1 is Selective Routing. Basic systems may have both ANI and ALI, but are not considered Enhanced until Selective Routing is added.

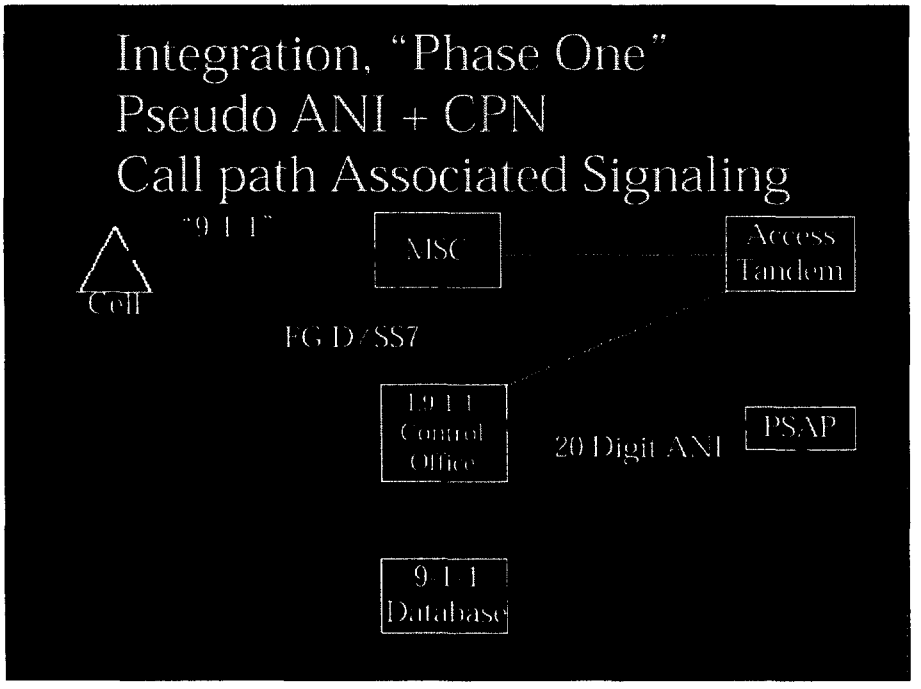
Generally speaking, Enhanced 9-1-1 systems will feature Selective Routing, ANI, ALI, Selective Transfer and Fixed Transfer. Selective Transfer enables one-button transfer capability to the Police, Fire and EMS agencies listed on the ALI display. Fixed Transfer is another name for speed dialing.

Enhanced 9-1-1 requires the addition of three components to our diagram - the Master Street Address Guide (MSAG), a link from the database to the 9-1-1 Selective Routing Tandem, and a Selective Routing Database (SRDB) associated with the tandem.

Selective Routing is the process by which 9-1-1 calls are delivered to a specific PSAP based upon the street address of the caller. Selective Routing Tandems (aka E9-1-1 Control Offices), however, don't understand addresses - they understand numbers. This means that street addresses have to be converted into numbers the Router can use.

For E 9-1-1, street address ranges are associated with Emergency Service Zones representing unique sets of Police, Fire, and EMS jurisdictions. These Zones are numbered with Emergency Service Numbers (ESNs), and DBMS processing then provides TN-ESN data relationships - the SRDB data that controls ANI-based call routing in the Selective Routing switch.

Wireless Enhanced



FCC Report and Order 96-264 requires that wireless 9-1-1 service be provided in two stages. Phase I, which carried a target date of April 1, 1998, calls for the delivery of cell/sector information, as discussed on the previous slide, plus a callback number for the mobile phone.

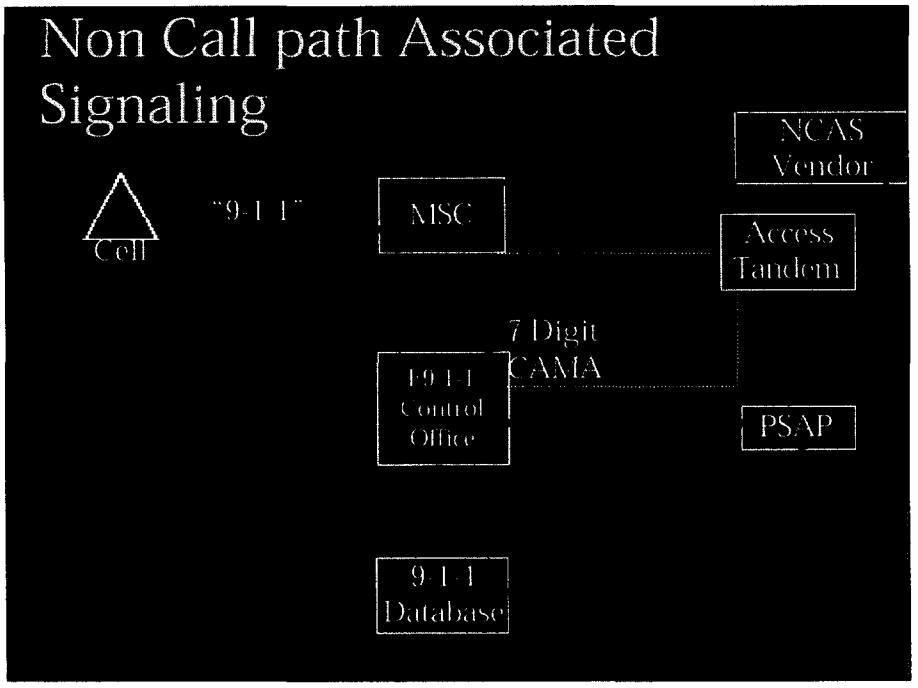
To accomplish this, the pANI plus the callback number must be delivered to the PSAP. However, the voice trunks typically used for 9-1-1 until now are only capable of delivering one, 8-digit number (NPD plus 7 digit ANI).

There are two choices for trunks that can carry two, ten-digit numbers from the MSC to the 9-1-1 tandem. Signaling System 7 (SS7) is the digital version and Feature Group D signaling (also referred to as Enhanced MF) is the analog version. Selection of one method over the other is based upon the capabilities of the two switches.

The signaling method between the 9-1-1 tandem and the PSAP also has to be upgraded to carry a minimum of 20 digits. The digital method, used today in a very small number of pilot PSAPs is ISDN. The analog version, developed by the NENA Network Technical Committee, is called Enhanced MF Signaling. This method is now being supported by all the major switch and CPE manufacturers.

Once the two numbers are delivered to the PSAP, the pANI is used to query the ALI database for the cell/sector data, and the callback number is displayed to the call taker on the ANI display.

Wireless Enhanced



The delivery of pANI and callback number via SS7, Feature Group D signaling, ISDN and Enhanced MF is called "Call path Associated Signaling", or CAS. With CAS, the pANI that identifies the cell/sector and the callback number are delivered to the PSAP with the voice call.

An alternative is NCAS, or "Non-Call path Associated Signaling". NCAS was devised as a method to deliver the same information to a PSAP that could not afford upgrades to the selective router and PSAP, or where the selective router and/or PSAP were not upgradable. Instead, an upgrade is made to the ALI database to accept call related data from an outside source, "on the fly", for delivery to the PSAP.

When a wireless 9-1-1 call is placed, the MSC queries the third party vendor for routing information. The NCAS vendor supplies a routing number which is transmitted as a pseudo-ANI to the 9-1-1 tandem. This number may identify the cell/sector; may be one of a block of numbers associated with a cell/sector (ESRD); or may be one of a block of numbers that only identify the destination PSAP or ESN (ESRK). When the receiving PSAP queries the ALI database with that number, the pALI record and callback number, supplied by the vendor, is delivered to the PSAP.

The positive about NCAS is that it does not require upgrades to the 9-1-1 tandem and PSAP CPE, which may be expensive. The negatives are that the ANI delivered with the call may mean nothing if the ALI does not arrive, and that it supports wireless but does nothing for number portability or area code exhaust. ISDN and Enhanced MF support all three through the delivery of one or two full ten digit numbers.

Exhibit 5

National Emergency Number Association

Home

Critical Issues Forums (CIF)

NENA hosts several Critical Issues Forums each year to inform and educate industry professionals about important national issues that challenge 9-1-1. While CIF topics vary, the forums are usually attended by individuals from both the public and private sectors of the industry. Many CIFs include in-depth discussion about these important issues.

2001 Wireless CIFs Planned
NENA is planning five REGIONAL Wireless Critical Issues Forums (CIF) starting in January 2001. Experts from regional LEC, third-party service providers, wireless carriers, public safety agencies and CPE/CAD providers will furnish attendees with the knowledge and/or documents they need to implement wireless 9-1-1 successfully.

Attendees of the one-day events will also form small, rotating discussion groups with each expert. The groups will further delve into specific issues. Attendees will leave with the knowledge needed to implement wireless 9-1-1, as well as documents and literature to help them in the implementation process. NENA members will receive brochures in November.

Tentative dates and locations for these CIFs are:

- January 12, 2001, Richmond, VA
- January 17, 2001, Phoenix, AZ
- January 25, 2001, Indianapolis, IN
- February 2, 2001, Memphis, TN
- February 8, 2001, Jacksonville, FL

Exhibit 6

National Emergency Number Association

Home

Recommended Steps for Implementation—

A Wireless 9-1-1 Checklist for PSAPs

Wireless 9-1-1 Checklist v.2
(47 kb; Adobe PDF; Instructions)

Implementation of wireless 9-1-1 services is one of the most significant challenges facing public safety agencies today. The FCC has mandated that wireless carriers implement wireless 9-1-1 for public safety agencies that request the service. Even with the FCC mandate, actual implementations of wireless 9-1-1 are few and far between, falling below the expectations of regulators, carriers, and public safety.

In an attempt to assist PSAPs with the challenge of implementing wireless 9-1-1, NENA hosted two Critical Issues Forums in April 2000. Industry experts shared current status of regulatory and political challenges, defined the operational issues facing wireless 9-1-1, and provided guidance for PSAPs on how to pursue implementation of wireless 9-1-1 for their jurisdictions.

In preparation for these forums, the NENA CIF planning committee developed the attached "Wireless 9-1-1 Checklist." This checklist represents the combined experience and acquired knowledge of numerous parties involved in live implementations of wireless 9-1-1 across the nation. The team's objective in developing this checklist was to create a simple, yet comprehensive set of action steps that any PSAP could use to guide their implementation efforts.

This checklist will be modified as new knowledge is uncovered, and new versions will be released. As you pursue your wireless 9-1-1 implementations, please share your key learning/knowledge with NENA, so that your fellow public safety professionals can benefit from your experiences.

Wireless 9-1-1 Checklist

This checklist is provided as a tool to assist 9-1-1 authorities in the implementation of Phase I Wireless 9-1-1 service. NENA makes no claim that this is an all-encompassing list, nor that the steps are listed in the order that applies to every PSAP. The expectation is that each PSAP authority that undertakes the implementation of Wireless 9-1-1 service will customize the list as their circumstances dictate. Over time, we would hope that members add steps that may have been omitted.

☐ STEP 1 Initial Decision

Determine that you want to implement Phase 1 Wireless 9-1-1 Service. In making this decision consider the following:

a) For this step you are not making a final decision. You should be looking at the operational side of the house such as equipment, staffing, and the idiosyncrasies of wireless calls, etc.

b) This initial decision may be based more on political considerations than on facts and figures.

c) Keep in mind that wireless emergency calls tend to take longer than wireline calls, due largely to the inability of the caller to give an exact location.

d) You will typically receive far more calls per incident on wireless than on wireline.

e) If you are the dispatching agency for emergency services in your area, you are already receiving at least some of these calls. They may be coming to you through some other agency (e.g. State or County Police) and may be filtered, but they are coming into your center.

f) If you are not taking any wireless calls right now, your PSAP will probably get bigger. You may only need a couple more trunks, or you may need additional answering positions and personnel to staff them, but you will grow.

g) Some money now will save a lot of money later. The implementation of wireless 9-1-1 technology will reduce the average handling time per call, freeing your call takers to answer more calls. Wireless 9-1-1 calls are growing each year as the number of wireless phones continues to increase. If you do not implement Wireless 9-1-1, the cost of additional call takers and answering positions will soon surpass the costs associated with Phases I and II.

h) All 9-1-1 systems differ slightly, due to the differences in demographics, political climate, funding mechanisms, configurations, PSAP CPE technology, GIS capability and 9-1-1 service provider technology from one county to the next and from state to state. Because of this, there are no national seminars or reference models that address all the subtleties and nuances of your particular PSAP or system. You will be using what are, essentially, off-the-shelf items to implement Wireless 9-1-1, but finding a model exactly like yours to follow will be extremely difficult. You will have to address all the issues.

i) If you are fairly sure that your system or PSAP will choose to proceed, go to the next step.

☐ STEP 2 Initial 9-1-1 Service Provider (LEC) Contacts

Contact the technical representative from your 9-1-1 service provider. You need to determine that company's ability to provide Wireless 9-1-1 services and their preferred technology.

a) From this conversation, you should look to determine the impact, if any, on your CPE, trunk configuration, ALI display format and/or computer aided dispatch system, as well as any options that might be available to you.

b) If your 9-1-1 provider will meet with you before you send the letters requesting Phase I service, (most will) then you might include this meeting as part of the first step.

c) Remember that there is no provision, in any legislation, that requires you to blindly accept the service in the manner they (the carriers and/or the 9-1-1 service provider) prefer to provide it. You do have choices and there are provisions for settling disputes, which, hopefully, will not be needed.

STEP 3 Notifications

Determine who the wireless providers in your area are and:

a) Send the wireless carriers certified letters, indicating that you want to begin negotiations to accept wireless Phase I 9-1-1 calls. (Note that nowhere is the term contract used.)

b) Include a date for the first planning meeting. Generally speaking, it is a good idea to allow 30 days notice.

c) Copy these letters to your 9-1-1 service provider (typically, the LEC).

This step begins the process of developing the cost estimates, workload estimates, and technology choices available to you on an individual case basis.

STEP 4 Planning Meeting

Conduct a get-to-know-one-another meeting with all of the participants that will be involved in your implementation process. Indicate to them that you will not discuss proprietary issues.

a) This meeting should include:
- all of the wireless carriers (may include any subcontractors they utilize)
- your 9-1-1-service provider
- your CPE provider
- your CAD vendor
- your mapping vendor.

Attempt to resolve the following issues at this meeting:

b) The method of Wireless 9-1-1 call delivery to be employed, agreed to by all participants. It will be CAS, NCAS, or a Hybrid CAS solution.

c) Establish how the number of trunks from each wireless carrier to the selective routing tandem(s) will be determined. NENA will be issuing an official recommendation later this year:
- The 9-1-1 authority and the wireless carrier should establish geographic areas to be served by 9-1-1 trunk groups. These geographic areas may be as small as a single city or as large as an entire state. It is expected that many will serve a county or small group of counties.
- The wireless carrier is responsible for determining how many trunks are required to provide a P.01 grade of service to the designated geographic area and communicating that information to the 9-1-1 authority.
- Establishing trunk groups for specific defined geographic areas provides congestion control (management of the volume of calls from any one geographic area) and facilitates default routing assignments.

d) Determine if you will establish a separate set of wireless 9-1-1 trunks from the selective routing tandem to your PSAP(s). Note the cost for these would probably be borne by the PSAP authority.

e) Separate wireless trunk groups are not necessary but they do provide a guard against the blocking of wireline 9-1-1 calls in the event of a major incident in public view. This does not necessarily mean a total duplication of the wireline trunk group to the PSAP. You need to discuss this thoroughly with your 9-1-1-service provider.

f) As mentioned in Step 1, your PSAP is, almost certainly, going to have to grow to accept wireless calls. Once the total offered load from all the wireless carriers has been computed, your 9-1-1 service provider will assist you in determining how many additional trunks, if any, are required to the PSAP.

g) Select default and alternate PSAPs. Make sure everyone involved understands the difference.

h) Identify if any of the players are utilizing subcontractors. You should understand the role and responsibilities of the subcontractors, as well as who is accountable for their performance.

i) Ask all of the players how they will implement Network Reliability Council and NENA recommendations regarding diversity and redundancy. Ask for explanations of how calls will flow (or not flow) if individual components or communications links fail.

j) Talk about pANIs (pseudo Automatic Number Identification), ESRDs (Emergency Services Routing Digits) and ESRKs (Emergency Services Routing Keys) so that you understand what they are. You will be involved in making a choice concerning which of these methods of identifying cell sites and or cell faces will be employed in your system. Ask about the effects each will have on your ALI information, the ability to identify your response agencies, the support of Selective Transfer, and the flexibility for PSAP reassignment.

k) Discuss cell sector naming conventions. Establish what information will go in the Subscriber Name field versus the Street Address field. NCAS requires the creation of default records in the ALI database that may require special attention.

l) Determine if any of the issues described above create any special demands on, or problems for, your CPE.

m) Determine how your mapping system, if you have one, will interface with the wireless calls and be used to identify the responders assigned to the area covered by the cell/sector. It might also be used to facilitate transfers to neighboring PSAPs. If it can do any of these things, it may give you more flexibility and more choices. Computerized mapping is not mandatory, but is absolutely recommended, especially in Phase II.

n) Attempt to determine, in general terms, what costs the wireless carriers, 9-1-1 service provider and PSAP CPE supplier intend to bill to the PSAP authority, if any. Ask specific questions about circuit costs, database interface costs and engineering fees. Details should be obtained in writing in private meetings.

o) Note: In 1999, the FCC removed the requirement that a cost recovery mechanism (for the wireless carrier's costs) be in place for Phase I implementation to begin. Your state, however, may already have established a mechanism for carrier cost recovery. The FCC ruling does not preempt any state or local mechanisms.

p) Provide a mechanism for your wireless carriers to interface with your 9-1-1 service provider, so that each understands the other's role. They will need to communicate regarding the ordering of trunks (from the MSC to the selective router) and database access, among other things. Your goal is to help establish this working relationship and make sure it continues until implementation is completed. Do not allow them to stop talking to each other or to start talking to each other only through you. Be vigilant and stay involved, but don't do their job for them.

q) Do not assume that the carrier representatives understand how wireless 9-1-1 works or how it relates to your current 9-1-1 system. Some will and some will not.

r) Identify the primary contact for your system or PSAP, so that everyone knows who to keep in the loop.

s) Identify the specific individuals in each company that will be managing their portion of the implementation. Ask for telephone numbers, pager numbers and e-mail addresses.

t) Identify the NENA company ID and 24X7 contact number for each carrier.

u) Develop a test plan that describes, in detail, all the aspects of the testing phase. Ask each carrier to submit a test plan. You have the option of allowing each carrier to use their own plan, or developing a master test plan from those you receive. Do not let any carrier connect without providing a test plan.

v) Arrange for individual meetings to discuss anticipated workload, cell routing, subscriber base in your coverage area and any other proprietary issues.

w) Discuss any applicable state or local legislation or regulations. Keep in mind that 9-1-1 service providers, specifically the LECs, are regulated at the state and federal level, but wireless carriers are only regulated at the federal level.

x) Set time lines to move forward if you feel comfortable with the information you have received. If you need to obtain more information before a final decision is made, make that known.

y) Establish trouble reporting procedures and expectations.

z) Establish notification procedures for major outages.

Once this meeting has ended and a decision has been made, you will need to stay active with all the parties involved as you proceed through the implementation process. Each company will probably assign a Project Manager to coordinate their internal activities, but you will be (or provide) the overall Project Manager.

STEP 5 Identify Cell Coverage–Treatment of Proprietary Information

a) The wireless carriers can provide you with RF coverage maps for all the cells in your service area. This usually requires execution of a non-disclosure agreement or other proprietary information release form. This is a fairly standard procedure for the provision of RF coverage maps, and will typically require the assistance of legal counsel.

b) From these maps, you will be able to associate individual cells and sectors with individual PSAPs. The goal is to identify the cells/sectors in each PSAP's service area, in order to establish call routing assignments. Wireless calls may not necessarily route to the same PSAP as wireline calls from the same area. The 9-1-1 authority may choose to route all wireless calls to a single PSAP or subset of PSAPs.

c) Cells along the border should be reviewed to determine if the majority of the serving area of one or more sectors is in the jurisdiction of a neighboring agency. This will determine routing for those sectors to your system versus someone else's.

d) This review should be done during face-to-face meetings and you should consider having representatives from the PSAPs/systems immediately surrounding yours present. This will assist in determining which PSAP will accept calls from cell sites along the borders and eliminate any contention down the road.

e) Keep in mind that you will have to perform this step with each carrier individually. They will share their RF coverage information with the PSAP authority on a one-on-one basis, but will absolutely not share it with their competitors in the room. If your area is served by two 800 MHz cellular carriers, three 1.9GHz PCS carriers and an ESMR carrier, plan on having six separate meetings.

f) 9-1-1 systems are very often deployed on a county or state level. Wireless telecommunication systems are deployed according to FCC-franchised trading areas, which may cover an entire state or parts of several states. To get optimum cooperation and results from the carriers, try to address Wireless 9-1-1 at the scale of the trading area or as close to it as possible. This may require a cooperative effort among several PSAP authorities.

STEP6 Implementation

Develop an implementation plan based on the output from the planning meeting. 9-1-1 service providers and some wireless carriers often provide project management assistance.

a) Issue Purchase Orders and/or Letters of Intent, as appropriate. You will need to issue some type of written order to each wireless carrier, your 9-1-1 service provider, your CPE provider and any other vendors involved in the project.
   - Even if no money will change hands, a written document is required to constitute an official order for service. The six-month implementation clock starts only after a valid order has been received.

b) Hold regularly scheduled project meetings. Have each player provide a status report. Proprietary details should be discussed privately. Track the progress of each player. Try to identify potential problems sooner rather than later.

c) Try to hold to a firm but flexible schedule. Deadlines will be missed, but should be immediately rescheduled. Activities for which there is no target date may never be completed.

d) Stagger the cutover schedule. Don't attempt to activate Phase I service from six carriers on the same day. Spread them out, especially the first two or three. You may want to schedule one carrier on Monday and another on Wednesday of the first week. If all goes well, you can accelerate the schedule for the remaining carriers. If you have problems, you will have time to address them before the next carrier compounds the problem.

   - Do not schedule cutovers on Friday or the day before a holiday. You want the carriers and your 9-1-1 service provider to be fully staffed the first 2-3 days of operation.

e) Post-implementation items that should be included in a Service Agreement:
   - Determine method for obtaining new and revised cell information from the carriers.
   - Determine method of notification for new carriers entering your serving area.
   - Track call volumes to determine ongoing trunking requirements.
   - Obtain usage data from carriers for MSC-to-9-1-1 tandem trunks.
   - Obtain usage data from 9-1-1 service provider for tandem-to-PSAP trunks.